

THE LATE DR. SUNDER LAL HORA (1896-1955): AN APPRECIATION, TOGETHER WITH A COMPLETE LIST OF HIS SCIENTIFIC WRITINGS

By

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( With a photograph )

Dr. Sunder Lal Hora died in his sixtieth year while in active service as the Director, Zoological Survey of India. On the 6th December, 1955, while presiding over a meeting of the Asiatic Society of Bengal in Calcutta, and in which he read a paper on the significance of *mahi-maratib*, a fish-ensignia of the Moghul times, he was seized with an attack of coronary thrombosis, his second in the last three years, and passed away peacefully on the 8th December.

Hora was born on the 22nd May, 1896, as the son of the late Lala Gobind Sahay Hora, at Hafizabad in the West Punjab (now in Pakistan). He had his early education at the Sain Das Anglo-Sanskrit School at Jullunder where he showed interest in science subjects. At the wish of his father for technical education, young Hora studied biology in the Intermediate course with a view to join the medical profession. He showed proficiency in Chemistry, Physics and Botany, but not in Zoology. In the first college examination he got very low marks in Zoology which hurt his feelings and created in him a determination to master the subject so that in later years he became one of the best known Indian zoologists. For his high marks in Zoology and Botany in his B.Sc., which he took in 1917 from the Government College, Lahore, he was awarded a cash prize. In 1919 he took his M.Sc. degree from the same college and in the same year he joined the Zoological Survey of India as a Research Scholar. Almost his entire service career was spent in that department which, in 1921, he joined as regular member of the gazetted staff (Assistant Superintendent), a post which he held until 1942. During the years 1942-47 he was seconded on deputation to the Bengal Government as the Director of Fisheries. He came back to the Zoological Survey of India in May, 1947, as its Director which post he held until his death in December, 1955.

While in service, Hora obtained on the basis of his researches, the D.Sc. degrees of the Punjab University in 1921 and of the Edinburgh University in Scotland in 1928, his theses being on the ecology of torrential fishes.

In the Zoological Survey of India, Hora was in charge of the collection of fishes, and his main contributions to science were on the taxonomy and

e ology of oriental fishes. He was a prolific and indefatigable writer and wrote during his life-time about 425 papers, not a few of them being monographic in nature. Hora's interests were not confined to the taxonomy and ecology of fishes. He wrote extensively, especially in his later years, on a variety of topics such as zoogeography, physiology, evolution, bionomics, etc., but always with fishes as the motif. While his earlier papers up to about 1935 were mostly technical, his later papers were often semi-popular. Early in life he developed an interest in the role of fishes in ancient Indian culture and wrote extensively on the subject. Perhaps his best contributions to science were his early papers on the evolution and adaptation of the fishes living in torrential streams in the hills of India and on the taxonomy of certain families of oriental fishes. In these works he was inspired by the example of Dr. Nelson Annandale, then Director, Zoological Survey of India, and he was also ably assisted throughout, first by his assistant Shri D. D. Mukherjee and later by his assistant Dr. K. S. Misra who subsequently succeeded him as Officer-in-Charge of the Fish Section.

Many honours came to him in recognition of his scientific work. In 1936, the Government of India conferred on him the title of Rai Bahadur. He was awarded the following medals by the learned societies and other bodies :—

1. The *MacLagan Gold Medal and Purse* of the University of Punjab in 1919. (For standing first in all science subjects in the M.Sc. examination.)
2. The *Joy Gobind Law Memorial Medal* of the Asiatic Society of Bengal in 1944. (For conspicuously important contributions to zoology in Asia.)
3. The *Jawaharlal Nehru Medal* of the National Geographical Society of India in 1951. (For outstanding zoogeographical researches.)
4. The *Sir Dorabji Tata Memorial Medal* of the Zoological Society of India in 1951. (For conspicuously important contributions to zoology.)

Several societies, institutions and international organizations all over the world honoured him and elected him as their honorary member, or fellow, etc., as follows : —

1. Honorary Member of the American Society of Ichthyologists and Herpetologists : 1946.
2. Honorary Director, Central Inland Fisheries Research Station, Barrackpore (Calcutta) : 1947.
3. Honorary Professor, Scientific Institutes, Netherlands : 1948. (For contributions to tropical zoology.)
4. Honorary Visitor to the Royal Institute of Science, Bombay : 1948-1951.
5. Senior Fellow and Member of Council and various Committees of the Asiatic Society of Bengal, Calcutta.

6. Foundation Fellow, Member of Council and of various Committees and Editor of Publications (for several years) of the National Institute of Sciences of India, and its President for 1951 and 1952.
7. Member of Council and of various Committees of the Indian Science Congress Association and President of the 41st Session (1953-54) of that body.
8. Fellow of the National Geographical Society of India.
9. Fellow of the Indian Ecological Society of India and its President for 1948 and 1949.
10. Fellow of the Zoological Society of India, and its President from 1948 to 1951.
11. Member of the Executive and Advisory Committees of the Bombay Natural History Society.
12. Foreign Secretary of the Helminthological Society of India.
13. Member of the Technical Advisory Board of the Calcutta Corporation's Waterworks (1936-39).
14. Member of the Oceanographic Committee of the Central Board of Geophysics (India).
15. Correspondent in India of the International Association of Oceanography.
16. Member of the Institute of Biology, London (1950).
17. Fisheries and Wildlife Adviser to the Damodar Valley Corporation (India).  
Consultant for Tropical Fish Culture to the Food and Agricultural Organization of the United Nations.
19. Member of the UNESCO Panel of Experts on Human Ecology and Arid Zone.
20. Member of Editorial Boards of the following journals :  
(i) *Evolution* (U.S.A.) (ii) *Copeia* (U.S.A.). (iii) *Current Science* (Bangalore). (iv) *Science and Culture* (Calcutta). (v) *Everyday Science* (Ambala).

Hora attended the following international scientific conferences as one of the representatives of India :—

1. Royal Empire Scientific Conference and the British Commonwealth Scientific Conference. At London in 1946.
2. Food and Agricultural Organization (of U. N.) Fisheries Conference. At Baguio (the Philippines) in 1948.
3. United Nations Scientific Conference on the Conservation and Utilization of Resources. At Lake Success (U.S.A.) in 1949.
4. Jubilee Meeting of the Australian and New Zealand Association for Advancement of Science. At Brisbane (Australia) in 1951.
5. Leader of Indian Delegation to the Third Meeting of the Indo-Pacific Fisheries Council. At Madras in 1951.

6. Chairman of the *Hilsa* Sub-Committee of the Indo-Pacific Fisheries Council. At Calcutta in 1952.
- 7 Annual Meeting of the British Association for Advancement of Science. At Liverpool (United Kingdom) in 1953.
8. Second Congress of the Pan-Indian Ocean Science Association. At Perth (Australia) in 1954.

From 1952-55 Hora was the Honorary Secretary-General of the Indian Board for Wild Life (Ministry of Agriculture) and did yeoman service to the organization of that Board in the years of its infancy.

Hora was gentle and loving by nature. Hard, conscientious work and persistence were perhaps his most outstanding characteristics. Once his interest was created in a scientific problem, the affairs of a scientific society or whatever it might be, he considered no trouble too much and no work too unimportant for that cause. His hobby was hard work and harder work. To the assistants and students who worked under him he was kind and considerate and always free with encouragement. To his enemies he was never forgiving, but he had great adaptability when the occasion demanded and he was thus a great success in the numerous scientific societies whose offices he held.

He is survived by his wife, a son and two daughters to all of whom we tender our sympathies.

A number of appreciative notices and obituaries on the late Dr. Hora have already appeared and the reader will find interesting material in them. Such notices as have come to my attention are listed below :—

*List of obituaries and other publications concerning Dr. S. L. Hora.*

- Anonymous. 1951. *Bibliography of the Publications of Sunder Lal Hora*. Published in commemoration of the Silver Jubilee of Dr. S. L. Hora's first contribution to Science. ix+57 pp., and 1 frontispiece portrait.—Calcutta.
- Anonymous. 1956. Dr. S. L. Hora (1896-1955). Obituary.—*J. sci. industr. Res.*, New Delhi, **15A**(1), p. 23.
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A fully indexed list of his publications was issued in a booklet in 1951 by his admirers and friends "in commemoration of the Silver Jubilee of Dr. S. L. Hora's first contribution to Science" A complete list of his publications, including a few which appeared posthumously, is given below in a chronological order ; two or three of his papers are still believed to be in the press.

#### ACKNOWLEDGMENTS

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7. ———, 1921d. Fish and Fisheries of Manipur with some observations on those of the Naga Hills.—*Rec. Indian Mus.*, Calcutta, **22**(3), pp. 165-214, 4 pls.
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